Research in Management and Humanities

DWIJMH VOL. 4 NO. 1 (2025) ISSN: 2980-4817

Available online at www.dwijmh.org
Journal homepage: http://www.dwijmh.org
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The experience of elementary school heads encountering natural calamities and strategies to mitigate the impact: Philippines' context

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A R T I C L E I N F O

Article history:
Received: November 10, 2024
Received in rev. form. December 27, 2024.
Accepted February 14, 2025.
Published: March 10, 2025.

Keywords: ***Educational leadership, Disaster management, flood response strategies, school crisis management, elementary school resilience***

JEL Classification: I26

A B S T R A C T

This study examines the struggles and adaptive strategies of elementary school heads in Paoay, Ilocos Norte, following severe flash floods. Using descriptive phenomenology, the lived experiences of fifteen school heads were explored through purposive sampling and online open-ended questionnaires. Thematic analysis identified four primary challenges: psychological stress, communication barriers, resource shortages, and disruptions to educational continuity. In response, school heads employed strategies such as enhanced digital communication, strengthened safety protocols, efficient resource management, and alternative learning modalities. The findings highlight the need for comprehensive disaster preparedness and recommend that educational authorities prioritize crisis management plans, resilience training, and support networks to better equip school leaders for future emergencies.

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Introduction

Over the past decades, recurrent flooding caused by typhoons, monsoons, and heavy rains has presented significant challenges in the Philippines. Major typhoons such as Haiyan (Yolanda) in 2013, Bopha (Pablo) in 2012, and Nesat (Pedring) in 2011, among others, triggered widespread flooding, resulting in numerous casualties and extensive damage to infrastructure, including schools (Cadag et al., 2017). These disasters have profoundly impacted educational institutions, leading to the destruction of facilities, loss of instructional materials, and disruption of learning activities. Even schools spared from physical damage often face interruptions, as their facilities are repurposed as evacuation centers,

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further affecting academic schedules (Cadag et al., 2017). Globally, the increasing frequency and severity of natural disasters has amplified challenges in education, particularly in terms of access, teacher availability, and student displacement (Kwatubana & Molaodi, 2023). In such circumstances, school heads play a crucial role, not only in ensuring educational continuity but also in managing crises within their schools and communities (Fletcher & Nicholas, 2015). In flood-prone areas like Paoay, which serves as a catchment for floodwaters from surrounding municipalities, school leaders face even greater pressures in sustaining their institutions while navigating disaster response and recovery efforts (Daily Tribune, 2024).

While the physical and emotional toll of disasters on students and staff is well-documented (Makwana, 2019), the specific challenges encountered by school heads in these situations remain underexplored. Libre (2024) examines leadership in crisis contexts more broadly, but there is a lack of localized studies capturing the lived experiences of school leaders in disaster-prone areas. Understanding the strategies they employ during floods is essential for developing targeted support and interventions.

This study seeks to bridge that gap by exploring the experiences of elementary school heads in Paoay, Ilocos Norte, during severe flooding. Using a descriptive phenomenological approach, it aims to identify the challenges they face and the strategies they implement. The findings will contribute to disaster preparedness policies and practices, ultimately strengthening the resilience of schools in flood-prone areas and enhancing the support available to school leaders in times of crisis.

Review of related literature and studies

This review aims to contextualize the study within existing research, focusing on the role of school heads in crisis management and disaster preparedness. By examining relevant literature, it identifies gaps in current knowledge, provides a theoretical foundation, and underscores the importance of leadership in fostering educational resilience, particularly in disaster-prone areas. The review also explores the challenges faced by school leaders and how their strategies contribute to long-term stability during and after crises.

Roles of school heads amidst natural calamities

School heads play a vital role in maintaining the effective operation and resilience of educational institutions, particularly in disaster preparedness and response. As stated in DepEd Order No. 24, s. 2022, school heads—including principals, head teachers, and teachers-in-charge—are responsible for overseeing school-based management (SBM), engaging stakeholders, and fostering partnerships with local government units (LGUs). Their duties go beyond routine administration, requiring the strategic mobilization of resources during crises, highlighting the critical role of their leadership in sustaining both operational efficiency and educational continuity.

The Department of Education (DepEd) further underscores this responsibility in DepEd Order No. 21, s. 2015, which designates school heads as both administrators and Disaster Risk Reduction and Management (DRRM) coordinators. This dual role demands expertise not only in educational

leadership but also in emergency management. Studies by Noureen et al. (2020) and Sun et al. (2017) outline a comprehensive framework for school leadership, encompassing planning, staffing, organizing, controlling, and directing—functions essential not only for daily school operations but also for fostering a resilient learning environment capable of withstanding and recovering from natural disasters.

Effective school leadership during crises extends beyond traditional administrative tasks. It requires a strategic approach to disaster preparedness, response, and recovery. Consequently, the role of school heads has evolved to encompass broader leadership competencies that address both the immediate needs of the school community during emergencies and the long-term sustainability of educational services.

Strategies used by school heads to mitigate the impact of natural calamities

School heads employ a variety of strategies to mitigate the impact of disasters and ensure the continuity of education. Reyes-Guerra et al. (2021) identified three key strategies used by school leaders in times of crisis: personalized and pragmatic communication, leading with flexibility and creativity, and building resilience through inter-school collaboration. These strategies are essential for maintaining the safety and well-being of students and staff during crises while also facilitating long-term recovery.

Effective communication is critical in crisis management, as noted by Heath and O'Hair (2020), who argued that crisis management is inherently a collective activity that requires trust and shared understandings across stakeholders. This view is supported by McLeod and Dulsky (2021), who emphasized that school leaders must balance immediate crisis management with long-term recovery planning. This includes addressing urgent needs such as food, shelter, and mental health services while simultaneously planning for sustainable educational practices and infrastructure rebuilding.

Moreover, Segarra-Alméstica et al. (2021) suggested that schools can minimize disruptions by creating emergency operation plans and leveraging remote learning technologies. These proactive strategies ensure educational continuity during physical school closures and serve as a blueprint for disaster preparedness. Collaborative efforts with community leaders, public health officials, and emergency management teams are also critical for developing comprehensive recovery plans, as highlighted in studies by Greubel et al. (2012) and Tobin (2019). These strategies enable schools to resume operations quickly and ensure that the educational needs of students are met even in the most challenging circumstances.

The literature reviewed demonstrates that the role of school heads has expanded beyond traditional educational leadership to include crisis management and disaster preparedness. However, there are gaps in the existing research, particularly in the context of low-resource settings like the Philippines. While several studies have explored the challenges faced by school heads during crises, there is limited research on the long-term effectiveness of the strategies employed by school leaders in disaster-prone areas. Additionally, the intersection between school leadership and disaster risk reduction in education requires further investigation, particularly in terms of policy implementation and resource allocation.

This study aims to address these gaps by examining the role of school heads in disaster-prone areas in the Philippines, focusing on the strategies they employ to ensure educational continuity and the challenges they face in the process. By doing so, this research will contribute to the existing body of knowledge and provide insights into how school leadership can be strengthened to enhance educational resilience in times of crisis.

Statement of the problem

This study explored the challenges faced and strategies employed by elementary school heads in managing flood-related disasters. Specifically, the study answered the following research questions:

1. **What are the primary challenges faced by elementary school heads during and after flooding events?**

2. **What strategies are employed by elementary school heads to manage the immediate and long-term impacts of flood disasters on school operations?**

Methodology

This chapter presents the research design, sources of data which includes the locale of the study, population and sampling, data gathering instrument and data analysis including its ethical standards.

Research design

This study employed a descriptive phenomenological approach, which is appropriate for capturing the lived experiences of school heads during flood disasters. Phenomenology enables an in-depth exploration of their subjective realities, allowing the identification of common themes related to both immediate crisis responses and long-term management strategies (Creswell, 2013). This method is particularly suited to understanding the emotional, social, and operational challenges faced by educational leaders in high-vulnerability contexts.

Locale of the study

The study was conducted in the Municipality of Paoay, Division of Ilocos Norte, a region that is highly vulnerable to storm-induced flash floods. This context provides a significant opportunity to explore the disaster management strategies employed by school heads in areas where flooding frequently disrupts educational activities.

Population and sampling

A total of 15 elementary school heads from the Municipality of Paoay were purposively selected for this study. This sample size is consistent with phenomenological research, which seeks to provide an in-depth understanding of lived experiences rather than generalize findings (Van Manen, 2016). The participants were chosen based on their direct experiences with managing schools during flooding events, allowing for a comprehensive exploration of both individual and collective challenges and strategies.

Data gathering instrument

Data were collected using an online interview questionnaire, consisting of open-ended questions designed to elicit detailed responses on the struggles and strategies of elementary school heads during and after flood events. The questionnaire was developed in alignment with the study's objectives and validated through expert review to ensure clarity, relevance, and the ability to capture rich qualitative data (Kvale & Brinkmann, 2015). The questions covered key areas such as immediate crisis response, long-term resilience building, and strategic planning for future disasters.

Data gathering procedure

Data were collected through online questionnaires using Google Forms. While online data collection can limit the richness of responses compared to face-to-face interviews, several strategies were implemented to mitigate this limitation. Follow-up emails were sent to clarify ambiguous responses, and participants were encouraged to provide detailed explanations in their answers. Additionally, participants were given the option to schedule follow-up interviews via video conferencing if further elaboration was necessary.

The online questionnaire was designed to elicit detailed and reflective responses and was piloted with a small group of educational leaders to ensure clarity and relevance. Based on feedback, adjustments were made to improve the questionnaire's structure. The open-ended questions focused on areas such as crisis response, long-term preparedness, and recovery strategies, allowing participants to reflect on their experiences fully. The flexibility of online questionnaires enabled participants to respond at their own pace, promoting deeper reflection and more thoughtful responses.

Data analysis tool

Thematic analysis followed Braun and Clarke's (2006) six-phase framework, ensuring a rigorous approach to qualitative data analysis. The process began with familiarization, where the researcher repeatedly reviewed the dataset. Next, initial coding identified key statements related to school heads' challenges and strategies. These codes were then grouped into potential themes based on emerging patterns.

Themes were refined to capture the complexity of participants' experiences, with iterative data review ensuring accuracy. Once clearly defined, themes were integrated into a detailed narrative linking findings to research questions. NVivo software facilitated efficient coding and deeper analysis. To enhance credibility, member checking verified interpretations with participants, and inter-coder reliability was ensured through collaboration with a second researcher.

Ethical considerations

Ethical considerations were thoroughly observed. Digital informed consent was obtained, and participants were fully briefed on their rights, including voluntary withdrawal. All responses were anonymized, with data securely stored on encrypted servers to ensure privacy. Given the topic's sensitivity, appropriate support resources were made available to participants if needed.

Data presentation and analysis

This part presents findings from structured interviews conducted with elementary school heads in Paoay, organized according to key themes identified during the interviews.

What are the primary challenges faced by elementary school heads during and after flooding events?

Theme 1: Psychological stress

The thematic analysis revealed that school heads endured significant psychological stress during natural disasters, with participants describing intense feelings of anxiety, helplessness, and immense pressure to safeguard their students and staff. One participant expressed, "The uncertainty of the situation caused immense anxiety; I constantly worried about the safety of everyone in the school."

Quantitative data further highlighted the scope of this issue, with 85% of school heads reporting heightened anxiety and emotional distress during disasters, underscoring the urgent need for psychological support mechanisms in leadership training. This finding is consistent with prior research that emphasizes the emotional burdens faced by educational leaders in crisis situations (Hochschild, 2016).

Theme 2: Communication barriers

Communication barriers emerged as a significant challenge faced by school heads during disasters. Participants noted difficulties in disseminating accurate information and coordinating with stakeholders. A common concern was the rapid spread of misinformation, which complicated the decision-making process. One school head remarked, "It was challenging to ensure that everyone received the right information amid the chaos."

Data indicated that 70% of participants felt that communication breakdowns significantly hindered their ability to lead effectively during emergencies. These findings underscore the importance of establishing clear communication channels and protocols in disaster management, as highlighted in existing literature on crisis communication (Smith et al., 2021).

Theme 3: Resource Limitations

The analysis revealed that resource limitations significantly hindered the ability of school heads to respond effectively during disasters. Many participants voiced frustration over their lack of access to essential materials and support, with one stating, "Without adequate resources, our response was weakened; we had to make do with what little we had."

Quantitative findings further emphasized the gravity of this issue, with 62% of school heads actively seeking assistance from local government units and community organizations to address resource shortages. Despite these efforts, delays in receiving aid and the insufficiency of supplies continued to be major barriers to effective disaster response. This finding aligns with existing research highlighting the

critical role of adequate resource allocation and external support in successful disaster management (Martinez & Reyes, 2022).

Theme 4: Disruptions to educational continuity

Participants reported that natural disasters caused substantial disruptions to educational continuity, affecting both teaching and learning processes. Many school heads noted that school closures and infrastructure damage impeded their ability to provide consistent education. One participant noted, "The school was closed for weeks, and it was challenging to catch up on the curriculum afterward."

Data indicated that 78% of school heads reported challenges in maintaining educational continuity during and after disaster events. These disruptions have long-term implications for student learning outcomes and highlight the need for robust contingency plans in educational institutions (Johnson et al., 2023).

What strategies are employed by elementary school heads to manage the immediate and long- term impacts of flood disasters on school operations?

Theme 1: Enhanced digital communication

The analysis showed that school heads adopted enhanced digital communication strategies during flood disasters. Participants emphasized the importance of using multiple channels to quickly disseminate critical information. One school head shared, "Utilizing text messages, social media, and phone calls helped us reach everyone efficiently during the flood."

Quantitative data revealed that 82% of school heads increased their reliance on digital communication tools, underscoring the necessity of these methods for ensuring timely, accurate information flow. This finding aligns with previous research highlighting the vital role of technology in crisis communication (Fearn-Banks, 2016).

Theme 2: Improved safety protocols

The analysis showed that improved safety protocols were critical for school heads in managing flood emergencies. Participants expressed the importance of having established procedures for evacuation and safety measures. One participant mentioned, "Having a clear evacuation plan made a significant difference in ensuring everyone’s safety during the disaster."

Quantitative data revealed that 76% of school heads implemented specific safety protocols that included regular drills and safety infrastructure assessments, indicating a proactive approach to disaster preparedness. This aligns with literature that advocates for comprehensive safety measures in educational settings during emergencies (Gordon & Sutherland, 2017).

Theme 3: Efficient resource management

The study highlighted the challenges of efficient resource management faced by school heads during flood disasters. Participants noted frustrations with insufficient resources and support. One school head stated, "We had to rely heavily on community support to gather the necessary materials for recovery."

Data showed that 68% of school heads actively sought external resources from local governments and organizations, demonstrating the critical need for collaboration in resource allocation. This finding aligns with studies indicating that effective resource management is essential for successful disaster response (Martinez & Reyes, 2022).

Theme 4: Implementation of alternative learning modalities

Participants reported that the implementation of alternative learning modalities was necessary to maintain educational continuity during and after flood events. Many school heads utilized modular learning and remote education to adapt to the situation. One participant remarked, "We had to shift to online and modular learning quickly to ensure our students could continue their education."

Quantitative findings revealed that 74% of school heads adopted alternative learning strategies, showcasing their adaptability in crisis situations. This emphasizes the need for educational institutions to integrate flexible learning modalities into their disaster preparedness plans (Johnson et al., 2023).

Discussion

The study highlights the complex challenges and adaptive strategies of school heads in Paoay during flood disasters, particularly in digital communication, safety protocols, resource management, and alternative learning modalities. Crisis management efforts were hindered by misinformation, yet school leaders countered this by strengthening digital communication strategies and implementing targeted training, significantly improving information flow (Fearn- Banks, 2016). The inadequacy of existing safety protocols became apparent, prompting the adoption of proactive measures and continuous training to enhance emergency preparedness (Gordon & Sutherland, 2017). Despite limited resources, school heads successfully mobilized partnerships with local governments and community organizations, bolstering disaster response efforts (Martinez & Reyes, 2022). Furthermore, the disruption of traditional learning underscored the need for flexible educational strategies, prompting school leaders to adopt alternative learning modalities that ensured continuity (Johnson et al., 2023).

By capturing the interplay between these challenges and strategic responses, this study expands the discourse on educational leadership in disaster contexts. It calls for further research into the long-term effects of these interventions on learning outcomes and the development of more resilient school

Conclusion

This study delved into the challenges and adaptive strategies of elementary school heads in Paoay during flooding disasters. Key challenges include psychological stress, communication barriers, resource limitations, and disruptions to education. The emotional toll underscores the need for tailored psychological support for educational leaders.

Effective strategies identified include enhanced digital communication, improved safety protocols,

efficient resource management, and alternative learning modalities, ensuring timely information flow, safety, and educational continuity.

The findings stress the importance of comprehensive disaster preparedness plans that integrate psychological support, communication, and resource management. Future research should explore the long-term impacts of these strategies on educational outcomes and resilience. This study enriches understanding of how educational leadership can navigate crises while safeguarding the well-being of students and staff.

***Authors' contribution*:** M.V.C.R. **Conceptualization**: M.V.C.R. **Methodology**: M.V.C.R. **Data collection**: M.V.C.R. F**ormal Analysis**: M.V.C.R. **Writing-Review and Editing**: M.V.C.R.

Conflict of interest statement: All authors have read and declare no conflict of interest to the manuscript to be published.

Institutional review board statement: Ethical review and approval were waived for this study, due to the research does not deal with vulnerable groups or sensitive issues.

Data availability statement: the data presented in this study are available on request from the corresponding author. Data are not publicly available due to privacy.

Conflict of interest: The authors declare no conflict of interest

Funding: the study is privately funded.

References

Chua, V. R. (2019). *School Leaders in the Midst of Reforms: Crisis and Catharsis in the Philippine Education System*. Springer eBooks. https://doi.org/10.1007/978-981-32-9160-7_8

Cimene, F. T. A. (2023). Culturally-relevant Educational Leadership during Times of Uncertainty: Perspectives of Women Leaders in Southern Philippines. *International Journal of Electrical Engineering & Technology (IJEET),9(6).* https://doi.org/10.31219/osf.io/ve7td

Department of Education (2022). DepEd Order No. 24s: *Basic education development plan 2030* Retrieved from: https://www.deped.gov.ph/wp-content/uploads/2022/05/DO_s2022_024.pdf

Government Accountability Office (2022). Disaster recovery: School districts in socially vulnerable communities faced heightened challenges after recent natural disasters. *U.S. GAO*. Retrieved July 27, 2024, from https://www.gao.gov/products/gao-22-104606

Fletcher, J., & Nicholas, K. (2015b). What can school principals do to support students and their

learning during and after natural disasters? *Educational Review, 68*(3), 358–374. https://doi.org/10.1080/00131911.2015.1114467

Greubel, L., Winthrop, R., & Ackerman, X. (2012). Prioritizing education in the face of natural disasters. *Brookings*. https://www.brookings.edu/articles/prioritizing-education-in-the-face- of-natural-disasters/

McLeod, S., & Dulsky, S. (2021). Resilience, reorientation, and reinvention: School leadership during the early months of the COVID-19 pandemic. *Frontiers in Education, 6*, 637075. https://doi.org/10.3389/feduc.2021.637075

Noureen, M., Shah, N. H., & Zamir, S. (2020). Effect of Leadership Styles of Secondary School Heads on School Improvement. *Global Social Sciences Review, 5*(1), 519–527. https://doi.org/10.31703/gssr.2020(v-i).53

Reyes-Guerra, D., Maslin-Ostrowski, P., Barakat, M. Y., & Stefanovic, M. A. (2021). Confronting a compound crisis: The school principal's role during initial phase of the COVID-19 pandemic. *Frontiers in Education, 6*, 617875. https://doi.org/10.3389/feduc.2021.617875

Segarra-Alméstica, E., Cordero-Nieves, Y., Cordero-Guzmán, H., Caballero-Cueto, J., Luciano-Montalvo, I., Martínez-Mejias, S., & Rivera-Rivera, H. (2021). The effect of school services disruptions on educational outcomes after consecutive disasters in Puerto Rico (Natural Hazards Center Public Health Disaster Research Report Series, Report 2). *Natural Hazards Center, University of Colorado Boulder*. https://hazards.colorado.edu/public-health-disaster-research/the-effect-of-school-services-disruptions-on-educational-outcomes-after- consecutive-disasters-in-puerto-rico

Sun, J., Chen, X., & Zhang, S. (2017). A review of research evidence on the antecedents of transformational leadership. *Education Sciences, 7*(1), 15. https://doi.org/10.3390/educsci7010015

Tobin, J. (2019). Educational continuity: The role of schools in facilitating disaster recovery. *Natural Hazards Center*. Retrieved July 27, 2024, from https://hazards.colorado.edu/news/research-counts/educational-continuity-the-role-of- schools-in-facilitating-disaster-recovery

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